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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,380	12/05/2003	Kuo Chung Chou	4459-137	6397
22429	7590	07/22/2005	EXAMINER	
LOWE HAUPTMAN GILMAN AND BERNER, LLP 1700 DIAGONAL ROAD SUITE 300 /310 ALEXANDRIA, VA 22314			MATZEK, MATTHEW D	
			ART UNIT	PAPER NUMBER
			1771	

DATE MAILED: 07/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/728,380

Applicant(s)

CHOU, KUO CHUNG

Examiner

Matthew D. Matzek

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☒ Claim(s) 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Screen with titanium dioxide coating.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 4 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The instant claims recite the limitation "nanosize", but fail to what dimension is to be nanometric in scale.
2. Claims 1-7 and 15-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The instant claims recite the limitation "mesh-like". This limitation is unclear because it is not clear to Examiner if mesh reads on the instant limitation.

Claim Objections

3. Claim 18 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1771

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (US 2003/0006015) in view of Wu (US 5,553,654) and Kadoi et al. (JP 11-228873, Abstract and Machine translation). A full translation will be provided in subsequent Office Actions.

- a. Lin teaches a sunshade body with a front side to face a light source that comprises a light-activated catalyst capable of oxidizing and decomposing air contaminants (Abstract). The light-catalytic layer comprises titanium dioxide (TiO_2) for the oxidizing and decomposition of air contaminants [0017]. The TiO_2 may be dissolved or suspended into a suitable solvent, such as resin, then coated on the reflective layer [0018]. Lin does not disclose the crystal structure of TiO_2 to be used or the use of a screen as a sunshade.
- b. Wu teaches a sunshade body comprising a nylon mesh whose front face may be coated with a light-reflecting paint (col. 2, line 64 – col. 3, line 2, and Fig. 5).
- c. Kadoi et al. teach a titanium dioxide photocatalyst-containing coating material composition. The composition has the function of deodorizing, atmosphere cleaning, self-cleaning and anti-microbial properties by dispersing a porous silica-coated TiO_2 photocatalyst (anatase) and a pigment TiO_2 (rutile) to provide a dried coating. The silica acts as a buffer interface molecule having one end bonded to the titanium dioxide and the other end bonded to the sunshade. The coating composition comprises 5-70% anatase TiO_2 and 5-20% rutile TiO_2 (Abstract). The titanium dioxide particles of the applied coating are nanometric in scale [0007].

Art Unit: 1771

d. Since Lin and Wu are both the same field of endeavor, (i.e. sunshades) the purpose disclosed by Wu would have been recognized in the pertinent art of Lin.

e. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the sunshade of Lin to be a screen with the motivation of allowing in a proportion of sunlight while still blocking some light. This concept is taught in Lin with the use of blinds as a sunshade [0020].

f. Since Lin and Kadoi et al. are both the same field of endeavor, (i.e. photocatalytic, titanium dioxide coatings) the purpose disclosed by Kadoi et al. would have been recognized in the pertinent art of Lin.

g. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the sunshade of Lin with the coating of Kadoi et al. motivated by the fact that the anatase form of titanium dioxide is photocatalytic and the successful creation of a sunshade with a photocatalytic surface.

5. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trill (US 2002/0005512) in view of Chen et al. (US 6,410,142).

a. Trill teach a modular, temporary fencing system comprising mesh PVC that is preferably resistant to water, rot, mildew, and UV radiation [Abstract and 0041]. Trill does not teach the application of a nylon 6-clay on the surface of the mesh PVC.

b. Chen et al. teach that nanocomposites may comprise nanoscopic minerals that lead to increased mechanical strength, heat distortion temperature and impermeability to gas and water. This is specifically shown by Nylon 6/clay nanocomposites (col. 1, lines 12-25).

Art Unit: 1771

- c. Since Trill and Chen et al. are from the same field of endeavor, (i.e. water resistant surfaces), the purpose disclosed by Chen et al. would have been recognized in the pertinent art of Trill.
 - d. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the mesh of Trill with the coating of Chen et al. motivated by the desire to impart the article with more water resistance and mechanical strength.
6. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lampe (US 2004/0176008) with evidence from Kim et al. (US 5,731,062).
- a. Lampe teaches a mattress cover comprising a woven polyester material with a finish layer of polyurethane powder [0034]. Examiner interprets the limitation of “mesh-like” to encompass woven fabrics. This is supported by the included definition of “mesh” provided by Merriam-Webster Online Dictionary. Lampe does not teach the specific size of the polyurethane particles. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used polyurethane nanoparticles in the invention of Lampe motivated by the desire to provide a coating that provides more exposed surface area of the polyurethane and yield a more uniform coating on the mattress cover.
 - b. Claim 16 is rejected as it is well known in the art to make the woven material of Lampe with the specific polyester, polyethylene terephthalate (claim 9 and col. 5, line 57 – col. 6, line 22).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew D. Matzek whose telephone number is (571) 272-2423. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mdm *MDM*


NORCA TORRES
PRIMARY EXAMINER